An Untangle Next-Generation Firewall Design for Enterprise Networks

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***Abstract*—This undergraduate thesis investigates an Untangle next-generation firewall configuration for an enterprise network. Organizations need gateway policies and visibility into traffic moving between network segments and the internet. The student reviews firewall functions, deploys and tests an Untangle configuration, and discusses its application to a business network. The manuscript documents setup, controls, and observed strengths and weaknesses. The conclusion presents Untangle as a configurable integrated firewall option and discusses ease of management. It also notes possible performance pressure when multiple services share one device and limits against internal attacks. The source does not provide a controlled cost comparison, quantified throughput benchmark, or proof that all internal threats are prevented. Its enterprise claims are based on the reported test environment and discussion. The contribution is a documented student study or prototype whose stated scope can guide further testing.**

***Index Terms*—Untangle, next-generation firewall, enterprise security, network policy**

I. Introduction

Organizations need gateway policies and visibility into traffic moving between network segments and the internet. This thesis investigates an Untangle next-generation firewall configuration for an enterprise network. It begins from a practical engineering need and explains the technologies and workflow chosen for the case. The objective is to document a student implementation or comparative investigation, together with the evidence available in the manuscript. Broader operational or economic effects require separate measurements and are not assumed from the existence of a prototype [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [4], [5], [6], [7], [8], [9], [10]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The student reviews firewall functions, deploys and tests an Untangle configuration, and discusses its application to a business network. The manuscript documents setup, controls, and observed strengths and weaknesses. The source is summarized through its stated design, implementation material, examples, and conclusion. Features shown in the manuscript are distinguished from proposals for later development. This review does not add a new experiment, fill missing measurements with estimates, or treat a planned capability as an observed result. The source thesis remains the provenance for the reported work [1].

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III. Results

The conclusion presents Untangle as a configurable integrated firewall option and discusses ease of management. It also notes possible performance pressure when multiple services share one device and limits against internal attacks. The report's screens, configurations, examples, or measurements constitute the evidence for this summary. A capability described only as a design intention is not counted as a validated operational outcome. No additional performance, adoption, financial, or safety figure has been introduced here. The result is interpreted within the scope of the student's documented setup [1].

IV. Discussion

The source does not provide a controlled cost comparison, quantified throughput benchmark, or proof that all internal threats are prevented. Its enterprise claims are based on the reported test environment and discussion. A larger evaluation could compare policy behavior, resource use, detection coverage, and administration under realistic enterprise traffic and device constraints. These limitations affect how the evidence should be read. The current manuscript can support understanding of the design and reported demonstration, while independent tests would be needed for stronger claims. Any later deployment should document its environment and separate observed outcomes from intended benefits [1].

V. Conclusion

The thesis documents an Untangle next-generation firewall configuration for an enterprise network. The conclusion presents Untangle as a configurable integrated firewall option and discusses ease of management. It also notes possible performance pressure when multiple services share one device and limits against internal attacks. The source does not provide a controlled cost comparison, quantified throughput benchmark, or proof that all internal threats are prevented. Its enterprise claims are based on the reported test environment and discussion. A larger evaluation could compare policy behavior, resource use, detection coverage, and administration under

realistic enterprise traffic and device constraints. Accordingly, the present contribution is a source-grounded account of the student work and its tested or illustrated scope. Claims about broader effectiveness should be assessed in later work using explicit evaluation conditions [1].

References

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